

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2004/050355

International filing date (day/month/year)  
24.03.2004

Priority date (day/month/year)  
25.03.2003

International Patent Classification (IPC) or both national classification and IPC  
A23K1/14, A23K1/18

Applicant  
DANMARKS JORDBURGSFORSKNING

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**International application No.  
PCT/EP2004/050355**Box No. I Basis of the opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II    Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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PCT/EP2004/050355

**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 1-59,67 and 68

because:

- ☒ the said international application, or the said claims Nos. 1-59,67 and 68 relate to the following subject matter which does not require an international preliminary examination (*specify*):  
see separate sheet
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☐ no international search report has been established for the whole application or for said claims Nos.
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
  - the written form ☐ has not been furnished
  - ☐ does not comply with the standard
  - the computer readable form ☐ has not been furnished
  - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☒ See separate sheet for further details

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or  
Industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

|                               |             |                   |
|-------------------------------|-------------|-------------------|
| Novelty (N)                   | Yes: Claims | 63                |
|                               | No: Claims  | 60-62,64-66,69-88 |
| Inventive step (IS)           | Yes: Claims |                   |
|                               | No: Claims  | 60-66,69-88       |
| Industrial applicability (IA) | Yes: Claims |                   |
|                               | No: Claims  | 1-59,67 and 68    |

**2. Citations and explanations**

see separate sheet

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**Box No. VI Certain documents cited**

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**1. Certain published documents (Rules 43bis.1 and 70.10)**

and / or

**2. Non-written disclosures (Rules 43bis.1 and 70.9)**

see form 210

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claims 1-59, 67 and 68 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the novelty, inventive step and industrial applicability of the subject-matter of these claims (Article 34(4)(a)(I) PCT).

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: "Project applications for the research programme FOJO II (2000-2005) : Product quality of organic beef and pork in relation to grazing system and feeding with bio-active crops (PROSQUAL)"[Online] 2000, - 2000  
XP002291897 Retrieved from the Internet:  
URL:<http://www.okoforsk.dk/projekt/ii12/an s.pdf> > [retrieved on 2004-08-10]

D2: RIDEOUT T C ET AL: "Fecal excretion of major odor-causing and acidifying compounds in response to dietary supplementation of chicory inulin extract in pigs" JOURNAL OF DAIRY SCIENCE, AMERICAN DAIRY SCIENCE ASSOCIATION. CHAMPAIGN, ILLINOIS, US, vol. 85, no. Supplement 1, 2002, pages 14-15, XP002263875 ISSN: 0022-0302

D3: HOSKIN S O ET AL: "EFFECT OF WITHHOLDING ANTHELMINTIC TREATMENT ON AUTUMN GROWTH AND INTERNAL PARASITISM OF WEANER DEER GRAZING PERENNIAL RYEGRASS-BASED PASTURE OR CHICORY" PROCEEDINGS OF THE NEW ZEALAND SOCIETY OF ANIMAL PRODUCTION, WELLINGTON, NZ, vol. 63, 2003, pages 269-273, XP008025489 ISSN: 0370-2731

D4: CHOI S H ET AL: "EFFECTS OF CHICORY FEEDING ON THE GROWTH AND CARCASS QUALITY OF KOREAN NATIVE GOATS" HANGUK CHUKSAN HAKHOE CHI - KOREAN JOURNAL OF ANIMAL SCIENCE,

KOREAN SOCIETY OF ANIMAL SCIENCE, SUWON, KO, vol. 40, no. 3, 1998, pages 255-260, XP008025504 ISSN: 0367-5807

D5: HOPKINS D L ET AL: "CARCASS AND MEAT QUALITY OF SECOND-CROSS CRYPTORCHID LAMBS GRAZED ON CHICORY (CICHORIUM INTYBUS) OR LUCERNE (MEDICAGO SATIVA)" AUSTRALIAN JOURNAL OF EXPERIMENTAL AGRICULTURE, CSIRO, COLLINGWOOD, AU, vol. 35, no. 6, 1995, pages 693-697, XP008025511 ISSN: 0816-1089

D6: KNARREBORG A ET AL: "Effect of non-starch polysaccharides on production of indolic compounds in entire male pigs" ANIMAL SCIENCE, DURRANT, GB, vol. 74, no. 3, 2002, pages 445-453, XP008025386 ISSN: 1357-7298

2. The applicant is reminded that with respect to the product claims 69 and 76-81, the intended use does not give any particular limitation to those claims. These claims are interpreted as products which are suitable for uses which are stated, which in this case gives the claims the meaning of chicory roots, per se. Note also that chicory roots is taken to mean chicory plants as can be derived from the statement in the description, page 18, paragraph 5, which clearly states that the invention can be carried out both by leaves or roots, i.e. the whole chicory plant.

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 60-63, 65, 66, 69, 76-83, 85 and 87 is not new in the sense of Article 33(2) PCT.

The document D1 discloses chicory (a source of inulin) which when incorporated in feed reduces skatole concentration in fat of an animal and decreases the effects of boar taint in pigs which will improve the sensory characteristics of the meat of these animals (see D1; page 16, paragraph 2).

The document D2 discloses the use of a chicory to manufacture a chicory containing feed for pigs (over 30kg) which is used for its beneficial effects on malodours associated with skatole (see D2; abstract).

The document D3 discloses a method for inhibition of parasitic nematodes of the GI tract in a non-human animal by feeding the animal chicory (see D3; the whole

document).

The document D4 discloses the use of dietary chicory in animals for improving flavour of goat meat (see D4; abstract).

The document D5 discloses the use of chicory in diets of lambs for changing of certain flavour/aroma attributes (see D5; page 693, column 2, paragraph 3; page 695, column 1, paragraph 2 and 696, column 1, paragraph 1-2).

4. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 64 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D6 discloses the use of sugar beet (a source of inulin) for reduction of boar taint to which androstenone and indole compounds are known causative factors (see D6; the whole document). The subject matter of claim 63 differs from the disclosure of the document D6 in that chicory is used as a source of inulin, however this appears to be an obvious selection from the many sources of inulin which are known to those skilled in the art.

5. Dependent claims 84, 86 and 88 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1-D5 and the corresponding passages cited in the search report.